



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 06 2005

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Information to Assist Regions and States to Report on the Underground Injection Control (UIC) Program's National Water Program Guidance Program Activity Measures

FROM: Cynthia C. Dougherty, Director
Office of Ground Water and Drinking Water

TO: Water Management Division Directors, Regions I - X
Underground Injection Control Program Branch Chiefs, Regions I - X

I am transmitting to you the attached information regarding Program Activity Measures (PAMs) described at Attachment I to assist you in working with primacy states and in your Direct Implementation role for the Underground Injection Control (UIC) Program. These measures are under Goal 2, Clean and Safe Water, of the EPA Strategic Plan and under the National Water Program Guidance for Fiscal Years 2005 and 2006. These UIC measures support and thereby link to the overall Safe Drinking Water Act by supporting achievement of the source water protection strategic target (F) and the Water Safe to Drink subobjective (2.1.1).

The development of these measures and attached information was a joint endeavor of EPA (HQ and Regions), the Ground Water Protection Council, and officials from every state. I want to thank you and your staff and all others for the assistance provided over the last five years. The efforts of everyone to implement these measures will help the drinking water community in determining how the Underground Injection Control Program can further increase its already extensive role in preventing contamination of source waters and protecting public health.

Because of commitments we have made in 2004 through the federal Performance Assessment and Rating Tool (PART) process relative to the UIC grant, I am requesting that you report on both the 2005 and 2006 PAMs this October. Measures SDW-13, SDW-14 and SDW-15 in the 2006 National Water Program Guidance are all in the approved UIC PART, and we will need information on these as we participate in the PART next year for the UIC regulatory program. The additional benefit of having this information in 2005 is that it will provide a baseline for information in 2006, including the information for SDW-12.

The information reported each year under these PAMs will assist states and EPA to answer four key questions analogous to the questions to be answered by the information that will be collected through the source water protection program reporting guidance I released on March 7, 2005:

1. Are State UIC inventories being completed ?
2. What threats to sources of drinking water are being found relative to injection wells ?
3. How are current and future drinking water supplies being protected ?
4. Are UIC program actions making a difference to public health protection ?

Again I want to thank you for all the work you and your staff have invested so far in developing the measures and information for reporting. With these measures, calculations and definitions, I am confident that we will make progress in implementing the Underground Injection Control Program under Goal 2 by achieving the objectives and strategic targets in the National Water Program Guidance.

cc. Drinking Water Branch Chiefs and Source Water Representatives, Regions I - X.
Stephen F. Heare, Director, Drinking Water Protection Division, OGWDW
Roy Simon, Acting Branch Chief, Prevention, Drinking Water Protection Division,
OGWDW

Attachment

ATTACHMENT I

Program Activities Measures (PAMs) for FY 2005 and FY 2006

FY 2005 PAMs

PAMs	What to Report	Source of Information
PAM 17 (FY 2005 only, except for Class V) Separately for each class of well,, the percentage of Class I, II, III, and V wells identified in <i>violation</i> that are <i>addressed</i> by the UIC Program	<ul style="list-style-type: none"> - Number of wells in <i>violation</i> in the current FY - Number of wells in <i>violation addressed</i> in the current FY 	- 7520-2A - State files
PAM 18 (FY 2005), SDW-13 (FY 2006) Percentage of identified Class V motor vehicle waste disposal wells that are <i>closed</i> or <i>permitted</i> .	<ul style="list-style-type: none"> - Number of MVWDWs closed in program history - Number of MVWDWs issued permits in program history - Number of MVWDWs closed in the current FY - Number of MVWDWs issued permits in the current FY - Number of identified MVWDWs in program history - Number of identified MVWDWs in the current FY 	- State files
PAM 19 (FY 2005 only) Percentage of ground water-based source water areas for CWSs that have a Class V well survey completed - high priority wells only	<ul style="list-style-type: none"> - Number of <i>ground water-based</i> CWS with a completed Class V well survey (high priority wells only) 	- State UIC files - State SDWIS files
PAM 20 (FY 2005 only) Percentage increase in the number of inspections conducted for Class II and Class V wells above the first year for which data is collected.	<ul style="list-style-type: none"> - Number of inspections in program history (not including current FY) -- Class II and V wells - Number of inspections in the current FY -- Class II and V wells 	-7520-3

FY 2006 PAMs

PAMs	What to Report	Source of Information
SDW-12 Separately for each class of well, the percent of Class I, II, III wells identified in significant violation, and Class V wells identified in <i>violation</i> that are <i>addressed</i> by the UIC Program	<ul style="list-style-type: none"> - Separately, number of Class I, II and III wells identified in significant violation in the current FY - Separately, number of Class I, II and III wells identified in significant violation addressed in the current FY - Number of Class V wells identified in <i>violation</i> in the current FY - Number of Class V wells identified in <i>violation addressed</i> in the current FY 	Same as for FY 2005 for violations
SDW-13 (FY 2006), PAM 18 (FY 2005) Number and percent of identified Class V motor vehicle waste disposal wells (MVWDW) that are <i>closed</i> or <i>permitted</i> .	<ul style="list-style-type: none"> - Same as FY 2005 	Same as FY 2005 for MVWDWs
SDW-14 Separately, for each class of wells, the percent of Class I, II, and III (salt solution mining) wells that maintain <i>mechanical integrity</i>	<ul style="list-style-type: none"> - Number of wells with <i>MI</i> failures for Class I wells in the current FY - Number of wells with <i>MI</i> failures for Class II wells in the current FY - Number of wells with <i>MI</i> failures for Class III salt solution mining wells in the current FY - Number of Class III salt solution mining wells that must maintain <i>MI</i> 	<ul style="list-style-type: none"> - 7520-2A - 7520-2B - 7520-3
SDW-15 Number and percent of high priority Class V wells identified in ground water-based community water system source water areas that are closed or permitted.	<ul style="list-style-type: none"> - Number of high priority Class V wells identified in ground water-based CWS areas closed in program history - Number of high priority Class V wells identified in ground water-based CWS areas closed in current year - Number of high priority Class V wells identified in ground water-based CWS areas permitted in program history - Number of high priority Class V wells identified in ground water-based CWS areas permitted in the current FY - Number of high priority Class V wells identified in ground water-based CWS areas in program history - Number of high priority Class V wells identified in ground water-based CWS areas in current FY 	<ul style="list-style-type: none"> - State UIC files - State SDWIS files

Calculations

PAM 17(FY 2005), SDW-12 (FY 2006)

Violations and Significant Violations Addressed

PAM 17 Separately for each Class, percent of Class I, II, III, and V wells identified in violation that are addressed by the UIC Program:

$$\frac{\text{Number of Class I, II, III and V wells in violation addressed by the UIC Program}}{\text{Number of wells in violation identified, by Class}}$$

SDW- 12 Separately for each class of well, the percent of Class I, II, III wells identified in significant violation that are *addressed* by the UIC Program:
(Class V measure is the same as PAM 17)

$$\frac{\text{Number of Class I, II, III wells in significant violation addressed by the UIC Program}}{\text{Number of wells in significant violation identified, by Class}}$$

For violations, reporting will be for the number of Class I, II, III and V wells with violations in the Fiscal Year, and the number of wells with violations addressed. Separately by class, the number of wells with violations that are addressed will be divided by the number of wells with violations,

For significant violations, reporting will be for the number of Class I, II, III wells with significant violations in the Fiscal Year, and the number of wells with significant violations that were addressed. Separately by class, the number of wells with significant violations that are addressed will be divided by the number of wells with significant violations.

PAM 18 (FY 2005), SDW-13 (FY 2006)

Motor Vehicle Waste Disposal Wells

Number and percent of identified Class V motor vehicle waste disposal wells that are closed or permitted.

Cumulative number of MVWDWs closed or permitted in program history

Cumulative number of MVWDWs identified in program history

States should report the number of MVWDWs closed or permitted both for the reporting year and program history (program history does not include the current year). States will also report the cumulative number of MVWDWs identified since the beginning of their program as well as identified in the current reporting year. The cumulative numbers will be compared to the previous years' totals, and a percentage will be calculated. The totals reported in the first reporting year will be the baseline for this measure. In subsequent years, only the MVWDWs identified, as well as those closed or permitted, in the Fiscal Year, will need to be reported.

PAM 19 (FY 2005 only)

Class V Well Surveys

Percentage of ground water-based CWSs with Class V well surveys completed-high priority wells only:

Number of ground-water based CWSs with a survey of high priority Class V wells completed

Number of ground-water based CWSs in the state

The reported number of ground water-based CWSs with a completed survey for high priority Class V wells compared to the total number of ground water-based CWSs in the state (available from state Safe Drinking Water Information System (SDWIS) data base) will provide the percentage for the measure.

PAM 20 (FY 2005 only)

Inspections

Increase in the percent of Class II and Class V wells inspected in the year:

$$\frac{\text{Number of Class II wells inspected in the Year}}{\text{Number of Class II wells in the inventory}}$$

$$\frac{[\text{Number of Class V wells inspected in history of program through the previous year} + \text{the number of Class V wells inspected in the current year}] \text{ minus the Number Class V inspected in program history as of the previous year}}{\text{Number Class V wells inspected in program history in previous year}}$$

For Class II, the current year's ratio described above, will be compared to the previous year's ratio to measure an increase. To measure a change over time, at least two years of information would have to be reported.

For Class V, the calculation begins with the cumulative number of Class V well inspections in the program history, which would not include the current Fiscal Year. Second, a separate number of Class V inspections for the current FY would need to be reported. These two separate numbers would be needed to calculate the change. (For example, if there were 1000 inspections up through FY 2004, and 100 more in FY 2005, then the calculation would be $1,100 - 1,000 / 1000$ or a 10% increase.)

PAM SDW-14 (FY 2006)

Mechanical Integrity

Percentage of Class I, II, and III (salt solution mining) wells maintaining MI:

$$\frac{\text{Number of wells maintaining MI}}{\text{Number of wells in the inventory}}$$

(Number of wells maintaining MI = the Number of wells in the inventory - number of wells with MI failures)

The number wells with MI failures will be reported for these classes of wells: Class I, Class II, and Class III. Because almost all Class III wells that are required to maintain mechanical integrity are salt solution mining wells, the reporting will be for these

Class III wells. The Class I well information can be derived from reporting on mechanical integrity failures, which are on 7520-2B.

The number of wells maintaining mechanical integrity will be divided by the number of wells in the inventory for each Class separately to calculate the percentage for the measure.

PAM SDW-15 (FY 2006)

Class V High Priority wells closed or permitted

Number and percent of high priority Class V wells identified in ground water based community water system source water areas that are closed or permitted.

$$\frac{\text{Cumulative number of identified high priority Class V wells in ground water-based CWSs closed or permitted}}{\text{Cumulative number of identified high priority Class V wells in ground water-based CWSs}}$$

Reporting will be for the cumulative number and current Fiscal Year number of high priority Class V wells identified in the ground water-based CWSs of a state and those that have been closed or permitted. The number of wells closed or permitted will be divided by the total number of wells in ground water-based CWSs to calculate the percentage for the measure. The states' first year of reported information on the cumulative number of high priority Class V wells identified in their program history will serve as the baseline number for this measure.

Definitions

Ground water-based CWSs

The number is determined from the definition in the Safe Drinking Water Information System (SDWIS). The national definition is that a ground water-based CWS is one where all of the source water is from ground water.

High Priority Class V wells

High priority wells include motor vehicle waste disposal wells, large-capacity cesspools, industrial wells, plus any other categories identified by the State. The considerations for adding categories are:

- 1) existence of the well type in the State,
- 2) likelihood of endangerment to USDWs based on geology and/or a quantitative assessment of the well type, and
- 3) whether the well type is not already sufficiently regulated by a governmental entity within the State.

State definitions for high priority wells will be established by the UIC Director for a Direct Implementation state or between the State Director and EPA Region for primacy states by the end of the first quarter of the reporting year.

Inspection for Class I, II, III, and deep Class V wells

A complete inspection for Class I, II, III and deep Class V wells should include an assessment of the well head, pressure and flow meters, pipeline connections, and any other equipment associated with the injection system. An inspection is considered complete only when a report has been filed with the regulating authority. *Citation: 7520-3.*

Inspection for Shallow Class V wells

A shallow Class V well inspection is an examination at a facility that has or is likely to have an injection well(s) to determine if it falls under the UIC Program's authority and if the facility is in full compliance with regulations. Class V inspections should include

those that are done to inspect “for” Class V wells as well as for existing wells on the inventory. An inspection is considered complete only when a report has been filed with the regulating authority.

Maintaining Mechanical Integrity (MI)

An injection well has maintained MI when: (1) there is no significant leak in the casing, tubing, or packer, and (2) there is no significant fluid movement into an USDW through vertical channels adjacent to the injection well bore. *Citation: 40 CFR 146.8*

Permitted Motor Vehicle Waste Disposal Wells (MVWDWs)

MVWDWs are permitted if they are individually permitted, come under a general permit, or under an area permit [Under the 1999 revisions to the Underground Injection Control Regulations for Class V Wells (64 FR 68545, December 7, 1999)].

Permitted Wells

An injection well has an authorization, license, or equivalent control document issued by EPA or an approved primacy state to implement the requirements of parts 144 (Underground Injection Control Program), 145 (State UIC Program Requirements), 146 (Underground Injection Control Program: Criteria and Standards), and 124 (Procedures for Decision Making).

A permitted well is not authorized by rule (§144.21). *Citation: 40 CFR 144.3.*

Significant violations

These violations are the same as injection wells in Significant Non-Compliance (SNC)

For Class I wells: Violations that are associated with a potential to impact a USDW (e.g., MI failure, excessive injection pressure, release to un-permitted zones, etc.), whereas minor infractions (e.g., late paperwork, absence of wellhead signs) would not necessarily require SNC reporting. A pattern of late reporting can be a SNC. *Citation: UIC Guidance # 81 (UIC Class I SNC Definition-3/95).*

For Class I, II and III wells, SNC is defined as follows:

- a. Unauthorized injection -any unauthorized emplacement of fluids;
- b. Mechanical Integrity -well operation without MI which causes the movement of fluid outside of the authorized zone, if such movement may have the potential for endangering a USDW;
- c. Injection pressure - well operation at an injection pressure that exceeds the permitted or authorized injection pressure and causes the movement of fluid outside the authorized zone of injection;
- d. Plugging and abandonment - the plugging and abandonment of an injection well in an unauthorized manner. The definition includes “walking away from” a responsibility to plug and abandon a well. These wells are in SNC only when there is endangerment of USDW and there is an identifiable owner/operator;
- e. Violation of a Formal Order -any violation of a formal enforcement action, including an administrative or judicial order, consent agreement, judgement, or equivalent State action;
- f. Falsification - The knowing submission or use of any false information in a permit application, periodic report or special request for information about a well.

Citations: 7520-2A (Compliance Evaluation), 7520-2B (Compliance Evaluation and Significant Noncompliance) and 7520 (Quarterly Exceptions List), Office Director Memo (12/4/86), and UIC Guidance # 81 (UIC Class I SNC Definition-3/95), Guidance # 58 (9/9/87), and 40 CFR 144.12.

Significant violations addressed (a well returned to compliance)

These violations are addressed if addressed through a **timely** response. Addressing an injection well in significant violation is one of three actions listed to bring a well in violation into compliance within 90 days: “. . . 1. Verify that the owner/operator has returned to compliance; 2. Place the owner/operator on an enforceable compliance schedule and track to ensure future compliance; or 3. Initiate a formal enforcement action against the owner/operator.” *Citations: UIC Program Compliance Strategy for Primacy and DI States, p.20-21 (3/87), and 7520-2A, and 7520-2B.*

Survey

A survey is to determine whether a Class V well exists at a facility. Determinations can be made by contacting the facility owner/operator, by written correspondence, phone, or actual inspections. Written correspondence not responded to must be followed up to determine the existence/non-existence of a well before the survey can be considered complete.

Survey completed for counties or ground water based CWSs

A “complete” survey occurs when all likely high priority Class V well locations within the county or source water areas for a CWS are fully canvassed.

Violations (for Classes I, II, III, and V)

The Agency recognizes six categories of UIC injection well violations as follows: (1) unauthorized injection, (2) MI violations, (3) operation and maintenance violations, (4) plugging and abandonment violations, (5) monitoring and reporting violations, and (6) generalized category of others. These violations can range from non-significant to significant noncompliance (SNC). These six categories include all violations of the UIC regulations from significant to minor paperwork violations. *Citations: 7520-2A (Compliance Evaluation), 7520-2B (Compliance Evaluation and Significant Noncompliance), 7520-4 (Quarterly Exceptions List), UIC Guidance # 81 (UIC Class I Significant Non-Compliance Definition 3/95), and UIC Guidance #58(9/9/87).*

Violations addressed

Violations should be counted as addressed if:

- a. A facility returns to compliance through informal means, such as through:
 - (1) notice of violation (NOV),
 - (2) or by other means such as informal written and verbal warnings; or,
- b. A formal action has been issued, e.g., administrative order (AO), bilateral compliance agreement (State tool), or civil referral, etc (including closures or permit issuances).

Wells closed

Well closures include: (1) those discontinued from the injection of unauthorized fluids, and (2) those closed through authorized plugging and abandonment procedures.

Citations: 7520-2B, 40 CFR 144.82 and 144.89.